

REMARKS

Claim Status

Applicants acknowledge the indication that claims 26-27 contain allowable subject matter.

Claims 18-38 are pending, with claims 18, 26, 27, 35 and 38 being independent. Claims 18, 35 and 38 have been amended. No new matter has been added by way of the above amendments. Reconsideration of the application, as amended, is respectfully requested.

Overview of the Office Action

Claims 18-25 and 28-38 stand rejected under 35 U.S.C. §103(a) as being anticipated by U.S. Patent No. 5,453,855 (“*Nakamura*”) in view of the Applicant’s Admitted Prior Art (“AAPA”).

Descriptive Summary of the Prior Art

Nakamura discloses “a liquid crystal display device which can achieve a reduction in weight and thickness, produce zero brightness irregularities and provide uniform and brighter surface illumination, and which is designed so as to illuminate various areas with a desired color at a desired brightness level” (see col. 2, lines 46-50).

According to *Nakamura*, the liquid crystal display device comprises “a holder with its front surface open, a liquid crystal display panel installed in the front-surface opening of the holder with a light-diffusing plate interposed between the holder and the panel, a printed circuit board attached to the back of the holder, and a plurality of LED's mounted on the printed circuit board so as to back-illuminate the liquid crystal display panel from behind the light-diffusing plate” (see col. 2, lines 51-59). In addition, “the holder is provided with LED mounts which hold the LED's, and the inside bottom surface of the holder is formed with a reflective surface so that

the light-diffusing plate is back-illuminated by direct light emitted from the LED's and reflected by the reflective surface" (see col. 2, lines 59-64).

Patentability of the Independent claims over the Prior art under 35 U.S.C. §103

Applicants have carefully considered the Examiner's rejections, and the comments provided in support thereof, and respectfully disagree with the Examiner's analysis. For the reasons which follow, it is respectfully submitted that all claims of the present application are patentable over the cited reference.

Set forth on page 2 of the Office Action is the statement that:

Nakamura discloses an illumination apparatus having at least one light source 2, a housing formed as a shell from a plurality of interconnected shell elements (e.g. figs. 1,2,9), which define a cavity to guide light (fig. 1), a reflective wall 26, a second cavity (fig. 1), a second light source 2 and a window 3. Nakamura does not explicitly disclose the optical waveguide. AAPA is cited to show this feature. AAPA also discloses an optical waveguide 54, a second cavity with circuit components in it (53), and over a bridge (fig. 5). The snap fit structure and convex wall would be within the level of ordinary [skill] in the art. Consequently, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Nakamura to have included an optical waveguide as taught by AAPA to increase incident light efficiency and to guide the light.

With respect to the foregoing statement, the following is noted. Amended independent claims 18 and 38 call for an illumination arrangement having, *inter alia*, an optical waveguide and a housing formed as a shell from a plurality of interconnected shell elements, wherein the shell elements have walls, and wherein at least one of the walls has a reflective internal surface in regions corresponding to regions of the optical waveguide in which light from at least one light source is to be deflected.

The *AAPA* is shown in Fig. 5 of the present application and discussed in the description thereof on pages 1 and 2. The Examiner's contention that the present invention is obviated by insertion of the optical waveguide of Fig. 5 within the apparatus disclosed in *Nakamura* is erroneous.

The combination of the optical waveguide disclosed in the *AAPA* with the apparatus of *Nakamura* achieves an arrangement with a bridge-like optical waveguide enclosed by elements, wherein a surface opposite to the light emitting window of the shell elements is reflective. However, this arrangement would not contain a surface that is reflective corresponding to the regions of the optical waveguide in which light is to be deflected, as required by amended independent claims 18 and 35.

In particular, by using the optical waveguide of Fig. 5 of the *AAPA* combined with the apparatus of *Nakamura* it is not possible to obtain an apparatus having a waveguide enclosed by shell elements with reflective properties in the light deflecting regions 16a of the present invention (Fig. 1). Furthermore, the reflective surface 26 shown, for example, in Fig. 1 of *Nakamura* is not a wall of the shell elements 12A and 12B forming the cavity, as recited in amended independent claims 18 and 35. Rather, the reflective surface 26 of *Nakamura* is an integral part of a separate holder (see col. 5, lines 18-20).

In sum, *Nakamura* and the *APPA*, either individually or in combination, fail to teach or suggest that light is deflected within an optical waveguide, and that the shell walls have a reflective internal surface for deflecting light in the manner recited in amended independent claims 18 and 38. Therefore, independent claims 18 and 38 are patentable over the combination of *Nakamura* and the *AAPA*, and reconsideration and withdrawal of the rejection are in order.

Independent method claim 35 has been amended to include the feature corresponding to those of apparatus claims 18 and 38 discussed above as being a basis for allowability thereof over

the prior art. Accordingly, claim 35 is likewise patentable over the combination of applied references.

By Applicants' amendment filed January 18, 2005, claims 26-27 were placed into independent form. Based on the indication that these claim contained allowable subject matter, as noted above, claims 26 and 27 are allowable.

In view of the patentability of independent claims 18, 26, 27, 35 and 38, for the reasons set forth above, dependent claims 19-25, 28-34 and 36-37 are all patentable over the prior art.

Conclusion

Based on all of the above, it is respectfully submitted that the present application is now in proper condition for allowance. Prompt and favorable action to this effect and early passing of this application to issue are respectfully solicited.

Should the Examiner have any comments, questions, suggestions or objections, the Examiner is respectfully requested to telephone the undersigned in order to facilitate reaching a resolution of any outstanding issues.

Appl. No. 09/890,411
Amdt. Dated August 19, 2005
Reply to Office action of May 19, 2005

It is believed that no fees or charges are required at this time in connection with the present application. However, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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